

# Reflections for *Today* from The Great Easter 1913 Flood

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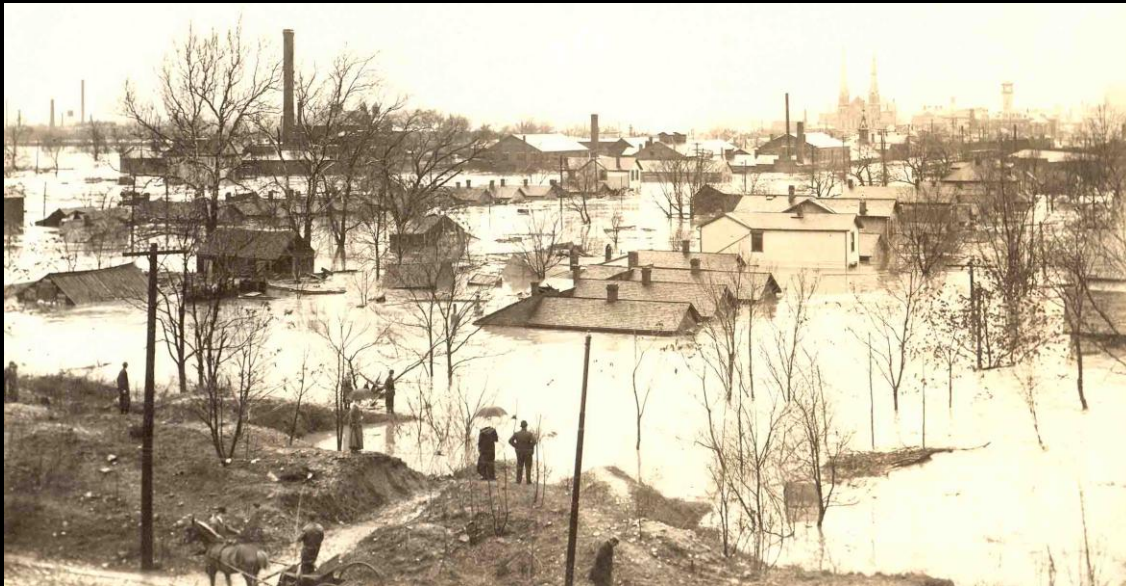
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<http://trudyebell.com/1913flood.php>

<http://nationalcalamityeaster1913flood.blogspot.com/>

# 1a. BIG floods happen.



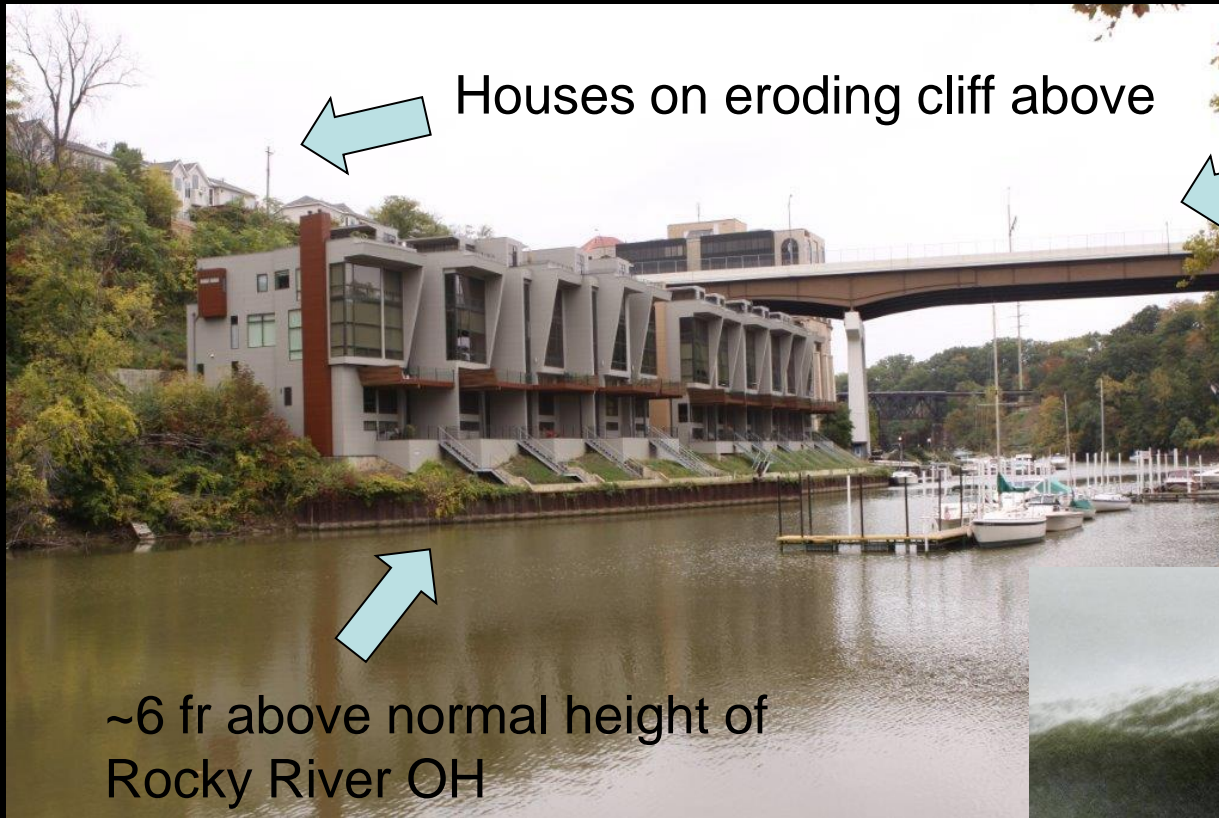
1913, Dayton OH

Dayton Metro



2013, U.K.

# 1b. What were they *thinking*??



Cleveland.com

Trudy E. Bell

Surfing Lake Erie during Hurricane Sandy (waves reached up to 27 ft)



## 2. Post 1913 research, I look not just at water but land



Mississippi River and floodplain

# 3. Floods have different causes



Excessive rain – 12 in 20 days Aug 2013  
<http://sanctuarygardener.wordpress.com/2013/02/27/excessive-rain-and-plants/>

Storm surge, Hurricane Sandy, Southampton NY 3-28-12  
<http://www.trust.org/item/20131028130000-od21h/>

Ice jam Vermilion River, OH 2-24-14  
<http://chronicle.northcoastnow.com/2014/02/24/vermilion-river-jam-goes/>



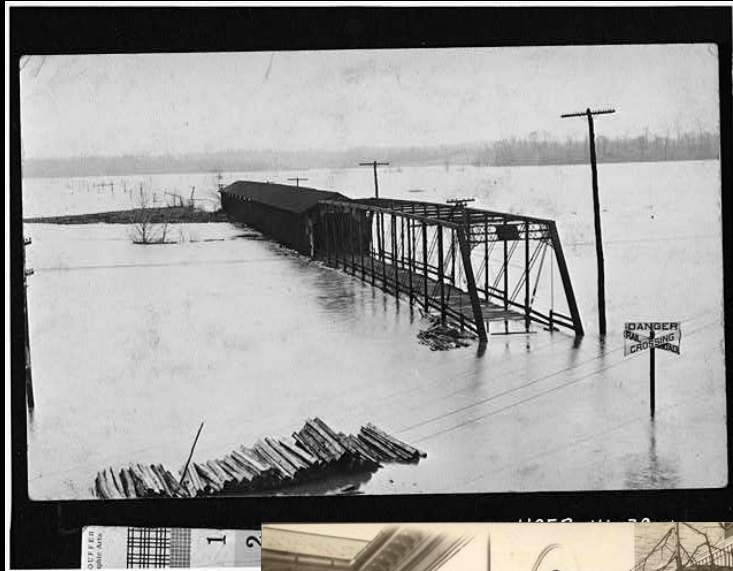
# 4. Floods in unexpected places

Heaviest rain fell at river sources

Cincinnati flooded by \*backwater\*



# 5. Floods hit industry, wealth, infrastructure



MCD



RR bridge and telegraph/telephone poles, Indianapolis IN; mansion and factory, Dayton, OH

IHS



## 6. Power of water



Library of Congress

1913 in Chillicothe;  
2013 in U.K.

Ice jam breaking, Rocky River 2014:  
[http://www.cleveland.com/metro/index.ssf/2014/02/video\\_ice\\_jam\\_bursts\\_on\\_the\\_ro.html#incart\\_river](http://www.cleveland.com/metro/index.ssf/2014/02/video_ice_jam_bursts_on_the_ro.html#incart_river)



# 7. Too much reliance on technology



1913 wind-downed  
telegraph/telephone  
communications


2013, ice-covered cell tower  
<http://twistedsifter.com/2013/12/top-100-pictures-of-the-day-for-2013/>



# 8. Magical thinking alone protects nuclear power plants


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# Risks from Flooding to Numerous U.S. Nuclear Facilities


by WASHINGTONS BLOG - October 24th, 2012, 1:30am


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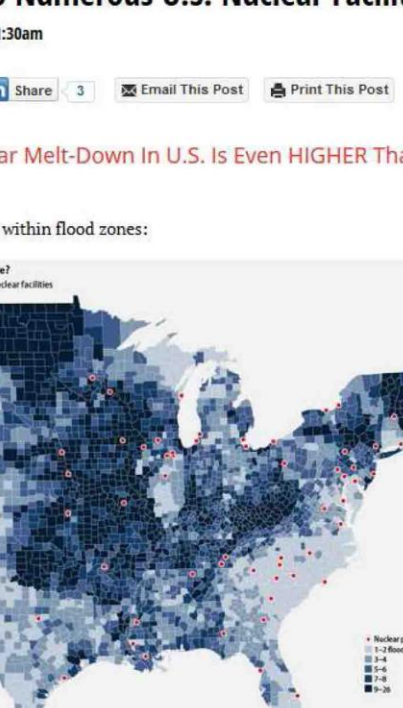
 Print This Post

NRC Whistleblowers: Risk of Nuclear Melt-Down In U.S. Is Even HIGHER Than It Was at Fukushima

Numerous American nuclear reactors are built within flood zones:

How resilient is the U.S. nuclear infrastructure to the floods of the future?

FEMA-declared flood emergencies by county since 1965, and location of operating U.S. nuclear facilities



Source: Nuclear Regulatory Commission (<http://www.nrc.gov/info-broch/reactors>) and Federal Emergency Management Agency (<http://gis.fema.gov/index.html>)

As one example, on the following map (showing U.S. nuclear power plants built within earthquake zones), the red lines indicate the Mississippi and Missouri rivers:

~~For Official Release~~

Screening Analysis Report for the Proposed Generic Issue on  
Flooding of Nuclear Power Plant Sites Following Upstream Dam Failures

Richard H. Perkins, P.E.  
Michelle T. Bensi, Ph.D.  
Jacob Philip, P.E.  
Selim Sancaktar, Ph.D.

U.S. Nuclear Regulatory Commission  
Office of Nuclear Regulatory Research  
Division of Risk Analysis

July 2011

Information in this record was deleted  
in accordance with the Freedom of Information  
Act, exemptions (b)(4) 7(F)  
FOIA: 2012-0106

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<http://www.ritholtz.com/blog/2012/10/risks-from-flooding-to-numerous-u-s-nuclear-facilities/>

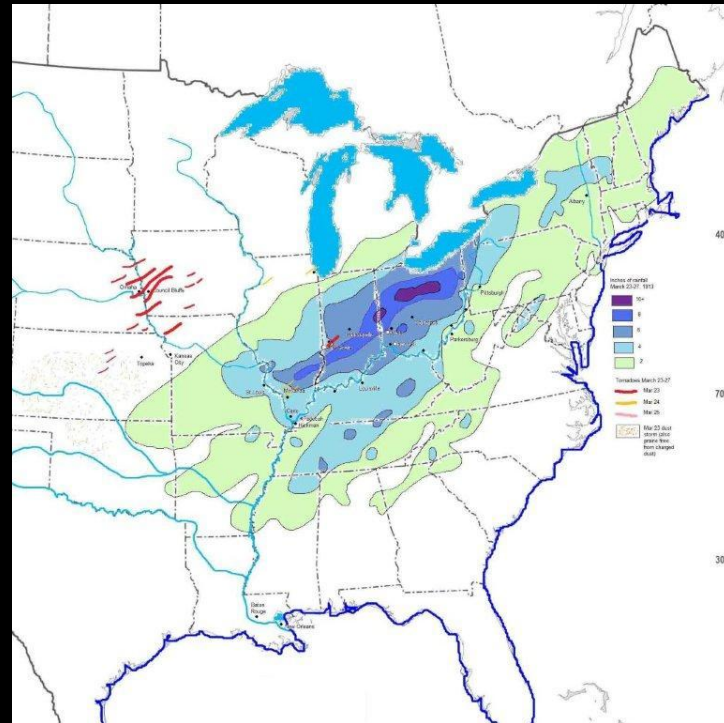
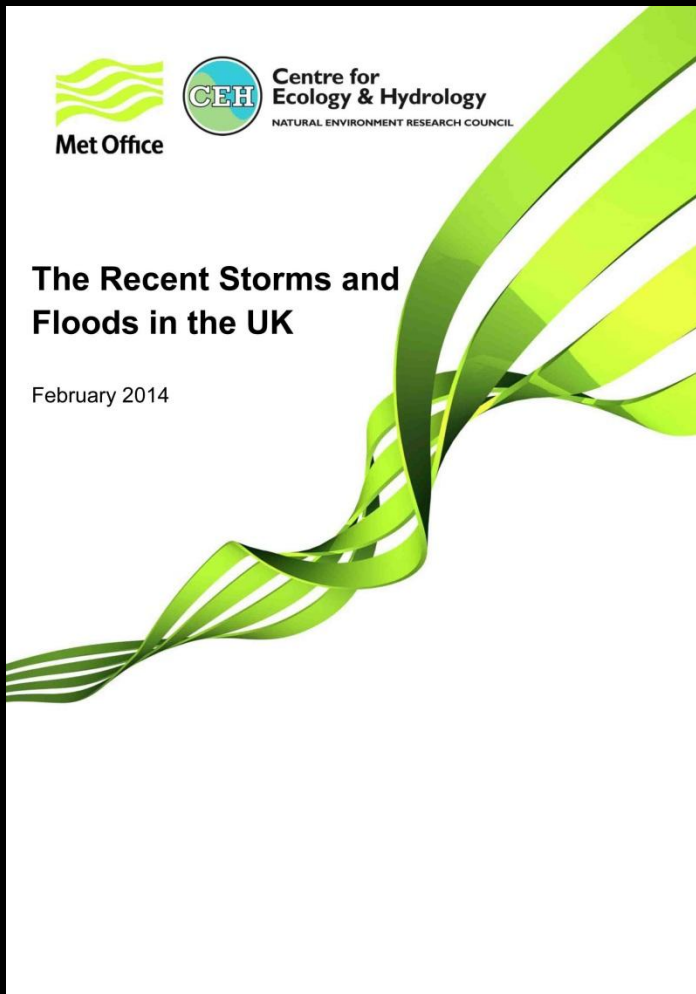
<http://pbadupws.nrc.gov/docs/ML1218/ML12188A239.pdf>

## 8. Fire vs. flood



Fire would have meant less dead-  
loss financial ruin because almost no  
one had flood insurance—  
*still true today!*

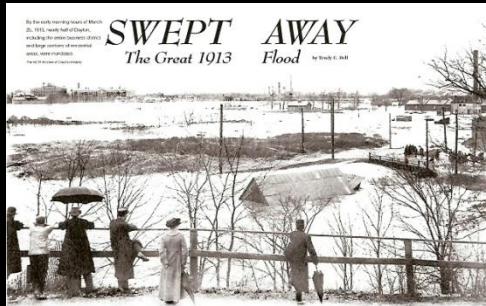
# 9. What 1913—and 2013— teach us (if we will only learn)



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“There is an increasing body of evidence that extreme daily rainfall rates are becoming more intense...” (p3)

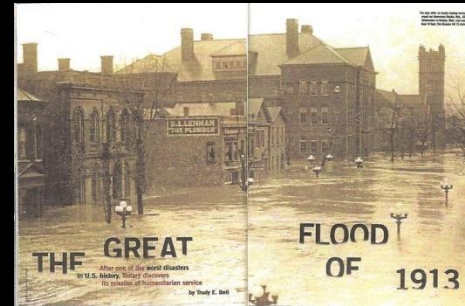
Publications and research papers on 1913 disaster available at <http://trudyebell.com/1913flood.php> and <http://nationalcalamityeaster1913flood.blogspot.com/>



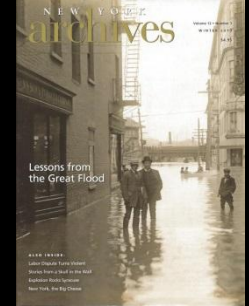
*Timeline, Ohio Historical Society*



*Ohio*



*The Rotarian*

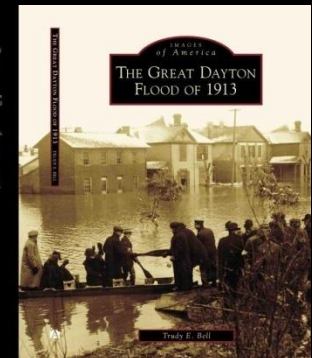
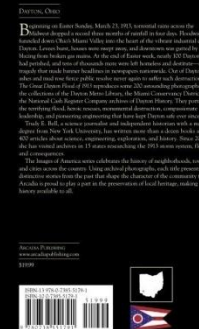
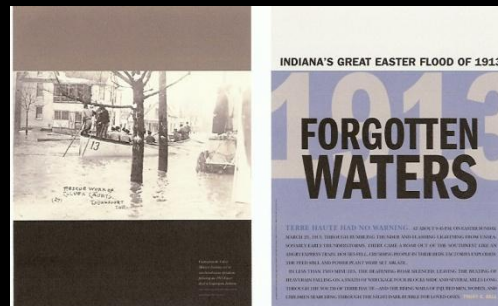
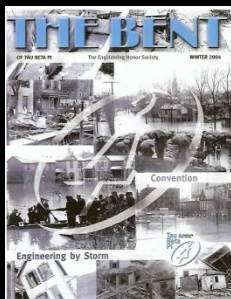


*New York Archives*

Two articles in engineering magazine *The Bent* of TBP

*Traces, Indiana Historical Society*

Arcadia book *The Great Dayton Flood of 1913*



# Thank you!

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This presentation is dedicated to  
Craig B. Waff, Ph.D., May 3, 1946 - June 12, 2012  
Husband, father, colleague, friend,  
who was with me in my 1913 flood research  
from the very beginning in 2003





# NCR rescues in quickly built NCR boats – photographers everywhere

Note  
high  
water  
mark



# Dayton - aftermath



Houses heaped together in grotesque groups.

# One of the ironies of flood is fire

